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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/647,397

08/25/2003

Larry D. Hewitt

1001-0021-1

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06/16/2006

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EXAMINER

KING, JUSTIN

ART UNIT

PAPER NUMBER

2111

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/647,397

Applicant(s)

HEWITT ET AL.

Examiner

Justin I. King

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

1. In view of the Appeal Brief filed on 3/24/2006, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:



MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

2. Applicant's arguments, filed 3/24/2006, with respect to the rejection(s) of claim(s) 1, 8-17, and 19-20 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made below.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 8-17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mothersole et al. (U.S. Patent No. 4,633,437), Aldereguia et al. (U.S. Patent No. 5,255,374), and Enns et al. (U.S. Patent No. 6,658,010).

Referring to claim 1: Aldereguia discloses a bus interface logic/bridge connecting two bus domains, the system bus and the I/O bus (figure 2). Aldereguia discloses that the device on each bus domain may have different transmitting speed or bus width (column 2, last 2 paragraphs). Aldereguia's bus interface logic establishes communication between the I/O bus and system bus with buffers and width conversion (column 3, 1st paragraph). Aldereguia does not disclose setting transmit width and receiving width separately.

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Mothersole discloses a dynamic bus sizing enabling any bus master to communicate with any of a plurality of available bus slaves having different bus port sizes within a bus domain (column 1, lines 47-51). Mothersole discloses a bus with a common multiple of these port sizes (column 1, lines 45-46). The port size of the slave device is the usable width; thus, Mothersole discloses setting a width based on a usable width. Mothersole teaches one to establish the communication between the bus master and a plurality of bus slaves with different port sizes with one bus and to eliminate the need for an adapter. Mothersole discloses setting a width based on a usable width within one bus domain; Mothersole does not explicitly disclose separately specify the widths for transmitting and receiving when the communication is crossing a bridge as disclosed by Aldereguia.

Enns discloses an architecture permitting independent scalability of upstream and downstream capacity for each of the upstream and downstream physical paths (abstract). Enns optimizes the communication by allocating the bandwidth based on usable bandwidth (abstract, bandwidth utilization) separately on both upstream and downstream. Enns teaches one to further optimize the communication by optimizing each communication segment independently.

Hence, it would have been obvious to one having ordinary skill in the computer art to adapt the teachings of Mothersole and Enns onto Aldereguia because Mothersole teaches one to establish the communication between the bus master and a plurality of bus slaves with different port sizes with one bus and to eliminate the need for an adapter, and Enns teaches one to further optimize the communication by optimizing each communication segment independently.

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Referring to claims 8 and 19: Claim is rejected as the argument for claim 1.

Referring to claim 9: Mothersole discloses latch the operand/port size into register (column 10, line 61); thus, Mothersole discloses that the width is set according to a value held in a programmable register.

Referring to claims 10-11: Since Mothersole discloses a bus with a common multiple of these port sizes, and Mothersole discloses allocating a subset of bus width according to the connected port size, Mothersole discloses that the usable width is the lesser of maximum width (the width of the bus with a common multiple of the port sizes) and a maximum transmitting/receiving width (the port size).

Referring to claim 12: Enns discloses obtaining maximum bandwidth utilization by apportioning available bandwidth (column 1, last line, column 2, first line) and flexibility in assigning configuration parameters (column 2, lines 13-14). Enns' available bandwidth is equivalent to the claimed maximum width. Enns further discloses that it is known to place the control or status information in a register (column 7, last paragraph). Thus, Enns discloses registers indicating maximum transmit and receiving bandwidth.

Referring to claims 13 and 20: Claim is rejected as the argument for claim 1.

Referring to claims 14-15: Claim is rejected as the arguments for claims 10-11.

Referring to claims 16-17: Claim is rejected as the arguments for claim 12.

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Conclusion

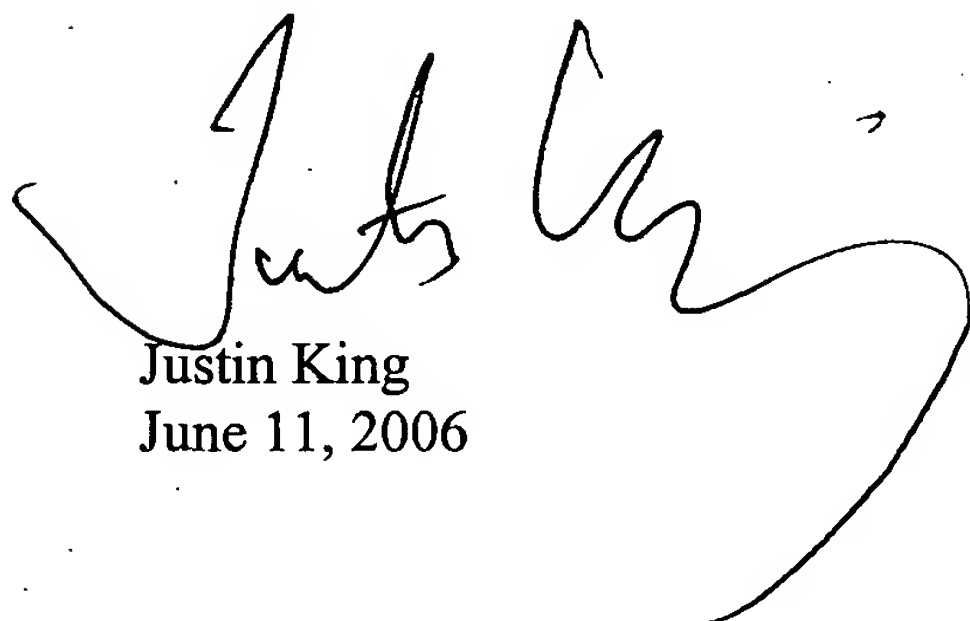
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin I. King whose telephone number is 571-272-3628. The examiner can normally be reached on Monday through Friday, 9:00 am to 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 571-272-3632 or on the central telephone number, (571) 272-2100. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Lastly, paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 for

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information on this policy. Requests to restart a period for response due to a missing U.S.
patent or patent application publications will not be granted.



Justin King
June 11, 2006



MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100